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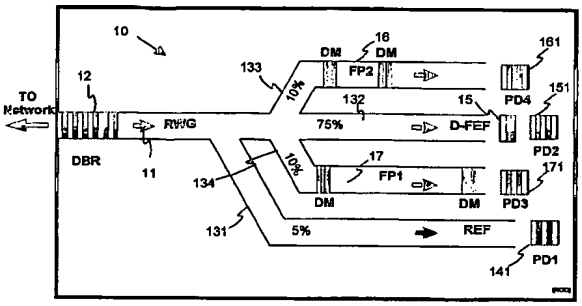
(54) Title: OPTICAL WAVELENGTH METER



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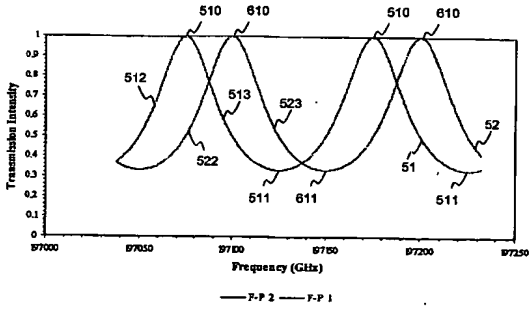

(57) Abstract: An optical wavelength meter for measuring wavelength of an optical beam includes two periodic out of phase fine optical filters (44, 45), using, for example Fabry Perot etalon filters, Fizeau filters, fibre Bragg gratings or photonic crystals. The phases of the periodic responses are arranged such that a peak (5109 or trough (511) of one response coincides with a slope (522) of the other response so that a slope portion of a response may always be chosen for measurement. A coarse filter (43) is provided to unambiguously define on which cycle of the periodic response of the fine filters a measured wavelength lies. Synchronized clock signals are provided to measure output of the filters using, for example, photodiodes (421, 422, 423, 424), at a rate of (1,000 to 10,000) wavelength measurements per second.

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